

Use Attainability Analysis

for

WBID 1015 Bear Creek

Submitted by
SES, Inc.

To
Missouri Department of Natural Resources
Water Protection Program

Date Received: June 3, 2007

Field Data Sheets for Recreation Use Stream Surveys
Data Sheet A - Water Body Identification
(For water body being surveyed)

Water Body Information

Water Body Name: Bear Creek	WBID: 1015
8 digit HUC code: 10300102	County: Boone
Upstream Legal Description 45N 15W SEC16	
Downstream Legal Description 46N 14W SEC19	
Number of Sites Evaluated 3	
List all site numbers, listed upstream to downstream 1,2,3	

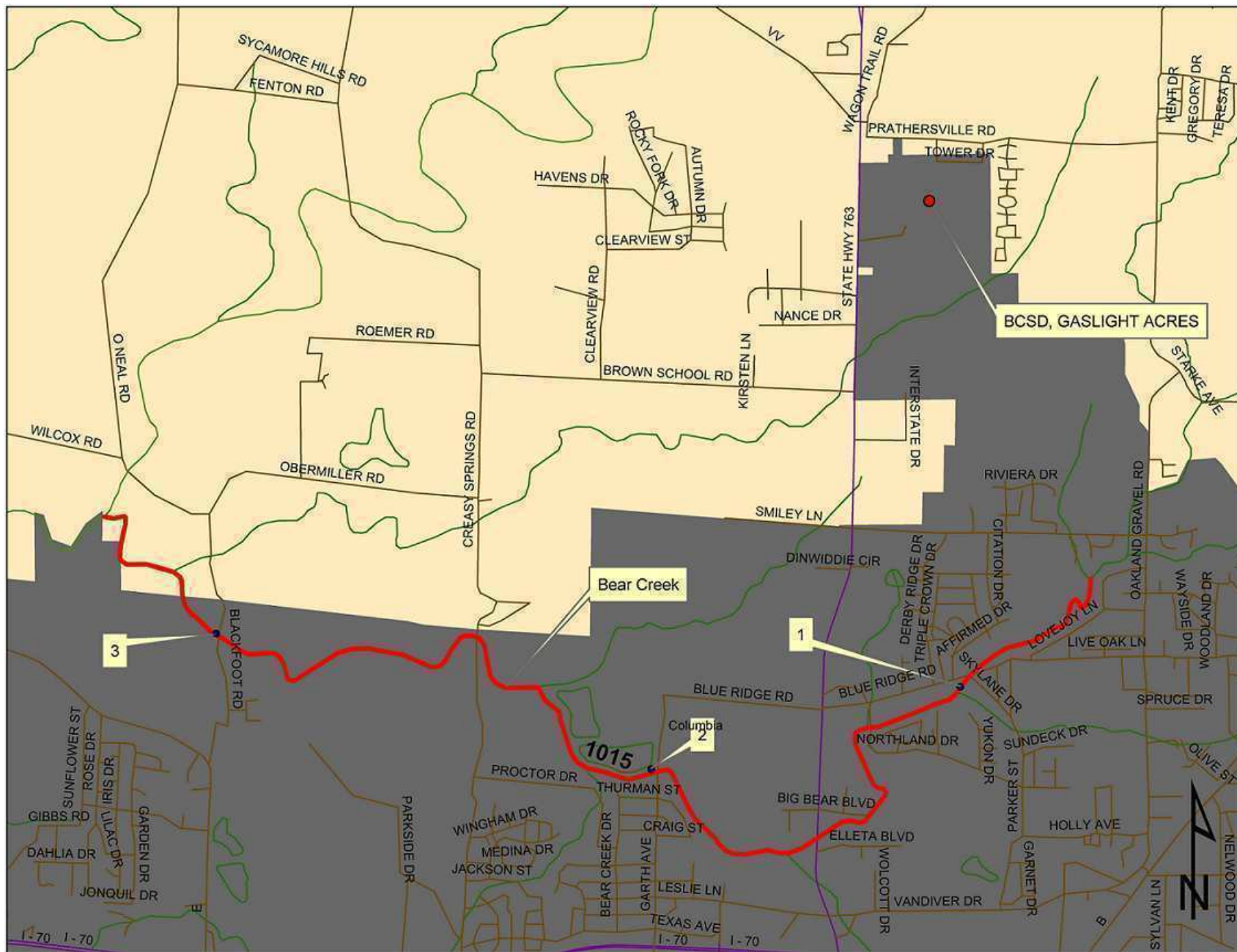
Discharger Facility Information

Discharger Facility Name(s): BCSD, Gaslight Acres
Discharger Permit Number(s): MO 0086606

UAA Surveyor

Name of Surveyor: Gilisa Gould	Telephone Number: 913-307-0054
Organization/Employer: SES, Inc.	
Position: Field Team Leader	

Signed: _____ Date: _____



Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

WBID 1015
 Site # 1

Date and Time:

5-23-07 12:10pm

Current Weather Conditions

clear

Weather Conditions for Past 10 days:

Clear with sprinkles on n 5-22-07

Drought Conditions? No

Site Location (e.g. road crossing)

Blue Ridge Crossing upper most upstream

GPS Mark:

12

Upstream Photo

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Downstream Photo

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Uses Observed (Uses actually observed at time of survey) Circle

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	Other	

Surrounding Conditions

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other (Bridge Pic #34)	

Indications of Human Use

Roads	Rope swings	Footpaths/prints pic 35	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	

Odor	Sewage	Musky	Chemical	None	Other
Color	Clear	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	Other
Surface Deposit	Oil	Scum	Foam	None	Other

Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)
(Median Depth Shown in Bold)

Site # 1

Mark # 12

1015_Bear Creek_Boone

	Depth (m)
Transect 1	0.00
Substrate:	0.00
cobble	0.00
Water Clarity:	0.50
clear	0.00
Channel Feature:	0.00
riffle	0.00
Channel Width:	0.00
9.00	0.00
0.00	
Transect 2	0.10
Substrate:	0.20
cobble/gravel	0.30
Water Clarity:	0.40
clear	0.50
Channel Feature:	0.60
pool	0.85
Channel Width:	0.85
8.00	0.70
0.45	0.40
Transect 3	0.00
Substrate:	0.50
cobble/gravel	0.15
Water Clarity:	0.25
clear	0.25
Channel Feature:	0.25
pool	0.30
Channel Width:	0.25
10.00	0.25
0.25	0.00
Transect 4	0.50
Substrate:	0.50
cobble/gravel	0.10
Water Clarity:	0.00
clear	0.10
Channel Feature:	0.15
pool	0.15
Channel Width:	0.10
10.00	0.10
0.13	0.30

	Depth (m)
Transect 5	0.50
Substrate:	0.10
cobble/gravel	0.15
Water Clarity:	0.25
clear	0.30
Channel Feature:	0.40
pool	0.50
Channel Width:	0.60
10.00	0.30
0.30	0.10
Transect 6	0.00
Substrate:	0.15
cobble/gravel	0.15
Water Clarity:	0.50
clear	0.00
Channel Feature:	0.00
pool	0.00
Channel Width:	0.00
13.00	0.00
0.00	0.20
Transect 7	0.00
Substrate:	0.00
cobble	0.00
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.00
riffle	0.00
Channel Width:	0.00
8.00	0.50
0.00	0.50
Transect 8	0.00
Substrate:	0.10
cobble	0.20
Water Clarity:	0.50
clear	0.30
Channel Feature:	0.30
pool	0.40
Channel Width:	0.20
5.00	0.10
0.25	0.50

	Depth (m)
Transect 9	0.50
Substrate:	0.50
cobble	0.15
Water Clarity:	0.15
clear	0.20
Channel Feature:	0.50
riffle	0.15
Channel Width:	0.10
7.00	0.10
0.15	0.00
Transect 10	0.00
Substrate:	0.50
cobble	0.10
Water Clarity:	0.50
clear	0.50
Channel Feature:	0.10
riffle	0.15
Channel Width:	0.10
6.00	0.00
0.10	0.00
Transect 11	0.00
Substrate:	0.00
cobble	0.00
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.50
riffle	0.10
Channel Width:	0.15
6.00	0.10
0.05	0.50

Site Median	Site Maximum
0.15	0.85

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

WBID 1015
 Site # 12

Date and Time:

5-23-07 1:17pm

Current Weather Conditions

clear

Weather Conditions for Past 10 days:

sprinkles on 5-22-.7

Drought Conditions? No

Site Location (e.g. road crossing)

crossing at garth rd.

GPS Mark:

13

Upstream Photo

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Downstream Photo

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Uses Observed (Uses actually observed at time of survey) Circle

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	Other	

Surrounding Conditions

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other	

Indications of Human Use

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	none

WBID # 1015 Site # 2
Mark # 13 Dissolved Oxygen (ppm) 9
Upstream Views Physical Dimensions: Is there any water present at this view?

y
If so, is there an obvious current?
y

Select one of the following channel features:

	% of Channel Feature				
Riffle	55				
Run	0				
Pool	45				

Downstream View's Physical Dimensions: Is there any water present at this view?

y
If so, is there an obvious current?
y

Substrate:

% Cobble 65	% Gravel 10	% Sand	% Silt
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% Mud/Clay	% Bedrock 25
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Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)

about 20% algal growth

Water Characteristics

Odor	Sewage	Musky	Chemical	None	Other
Color	Clear	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	Other orange/red deposits
Surface Deposit	Oil	Scum	Foam	None	Other

Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)
(Median Depth Shown in Bold)

Site # 2

Mark # 13

1015_Bear Creek_Boone

	Depth (m)
Transect 1	0.00
Substrate:	0.15
cobble/bedrock	0.15
Water Clarity:	0.15
clear	0.50
Channel Feature:	0.00
pool	0.10
Channel Width:	0.15
10.00	0.10
0.15	0.50
Transect 2	0.15
Substrate:	0.20
cobble	0.00
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.50
riffle	0.50
Channel Width:	0.00
12.00	0.00
0.08	0.50
Transect 3	0.50
Substrate:	0.10
cobble	0.00
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.00
riffle	0.00
Channel Width:	0.00
12.00	0.50
0.00	0.10
Transect 4	0.10
Substrate:	0.20
bedrock/cobble	0.20
Water Clarity:	0.20
clear	0.25
Channel Feature:	0.20
pool	0.50
Channel Width:	0.50
7.00	0.50
0.23	0.50

	Depth (m)
Transect 5	0.50
Substrate:	0.10
cobble/bedrock	0.15
Water Clarity:	0.25
clear	0.50
Channel Feature:	0.50
riffle	0.00
Channel Width:	0.50
7.00	0.50
0.50	0.50
Transect 6	0.00
Substrate:	0.10
bedrock	0.50
Water Clarity:	0.10
clear	0.50
Channel Feature:	0.00
riffle	0.00
Channel Width:	0.00
7.00	0.00
0.00	0.00
Transect 7	0.00
Substrate:	0.50
bedrock	0.10
Water Clarity:	0.00
clear	0.10
Channel Feature:	0.15
riffle	0.10
Channel Width:	0.10
7.00	0.50
0.10	0.00
Transect 8	0.50
Substrate:	0.10
cobble	0.00
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.00
riffle	0.00
Channel Width:	0.00
8.00	0.10
0.00	0.10

	Depth (m)
Transect 9	0.00
Substrate:	0.00
cobble/bedrock	0.00
Water Clarity:	0.10
clear	0.50
Channel Feature:	0.15
pool	0.20
Channel Width:	0.50
8.00	0.00
0.13	0.20
Transect 10	0.00
Substrate:	0.00
gravel/bedrock	0.50
Water Clarity:	0.50
clear	0.10
Channel Feature:	0.10
pool	0.10
Channel Width:	0.10
5.00	0.50
0.10	0.50
Transect 11	0.00
Substrate:	0.50
bedrock	0.10
Water Clarity:	0.15
clear	0.20
Channel Feature:	0.25
pool	0.10
Channel Width:	0.10
5.00	0.50
0.18	0.50
Site Median	0.10
Site Maximum	0.50

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

WBID 1015
 Site # 3

Date and Time:
 5/23/2007 14:15

Current Weather Conditions
 clear

Weather Conditions for Past 10 days:
 sprinkles on 5-22-07

Drought Conditions? No

Site Location (e.g. road crossing)
 blackfoot crossing

GPS Mark:
 14

Upstream Photo
 38

Downstream Photo
 39

Uses Observed (Uses actually observed at time of survey) Circle

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	Other	

Surrounding Conditions

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other	

Indications of Human Use

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	

WBID # 1015 **Site #** 3
Mark # 14 **Dissolved Oxygen (ppm)** 7.3
Upstream Views Physical Dimensions: Is there any water present at this view?

y

If so, is there an obvious current?

y

Select one of the following channel features:

	% of Channel Feature				
Riffle	25				
Run	0				
Pool	75				

Downstream View's Physical Dimensions: Is there any water present at this view?

y

If so, is there an obvious current?

y

Substrate:

% Cobble 15	% Gravel	% Sand 85	% Silt
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% Mud/Clay	% Bedrock
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Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)

Water Characteristics

Odor	Sewage	Musky	Chemical	None	Other
Color	Clear	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	Other
Surface Deposit	Oil	Scum	Foam	None	Other

Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)
(Median Depth Shown in Bold)

Site # 3

Mark # 14

1015_Bear Creek_Boone

	Depth (m)
Transect 1	0.15
Substrate:	0.15
cobble	0.15
Water Clarity:	0.15
clear	0.15
Channel Feature:	0.15
riffle	0.10
Channel Width:	0.50
2.00	0.00
0.15	0.00
Transect 2	0.50
Substrate:	0.20
sand	0.20
Water Clarity:	0.20
clear	0.25
Channel Feature:	0.25
pool	0.00
Channel Width:	0.00
9.00	0.15
0.20	0.15
Transect 3	0.50
Substrate:	0.50
sand	0.10
Water Clarity:	0.10
clear	0.50
Channel Feature:	0.15
pool	0.10
Channel Width:	0.50
10.00	0.50
0.33	0.00
Transect 4	0.10
Substrate:	0.10
sand	0.10
Water Clarity:	0.15
clear	0.25
Channel Feature:	0.25
pool	0.20
Channel Width:	0.20
9.00	0.25
0.20	0.20

	Depth (m)
Transect 5	0.10
Substrate:	0.20
sand	0.25
Water Clarity:	0.20
clear	0.20
Channel Feature:	0.20
pool	0.15
Channel Width:	0.10
9.00	0.00
0.18	0.10
Transect 6	0.00
Substrate:	0.50
sand	0.15
Water Clarity:	0.20
clear	0.30
Channel Feature:	0.35
pool	0.45
Channel Width:	0.50
5.00	0.60
0.40	0.45
Transect 7	0.50
Substrate:	0.50
sand	0.50
Water Clarity:	0.50
clear	0.50
Channel Feature:	0.10
pool	0.15
Channel Width:	0.20
11.00	0.20
0.35	0.15
Transect 8	0.00
Substrate:	0.00
cobble	0.50
Water Clarity:	0.50
clear	0.10
Channel Feature:	0.10
riffle	0.15
Channel Width:	0.10
2.00	0.10
0.10	0.50

	Depth (m)
Transect 9	0.50
Substrate:	0.00
sand	0.00
Water Clarity:	0.00
clear	0.50
Channel Feature:	0.10
pool	0.35
Channel Width:	0.35
8.00	0.35
0.35	0.35
Transect 10	0.50
Substrate:	0.50
sand	0.20
Water Clarity:	0.20
clear	0.30
Channel Feature:	0.40
pool	0.50
Channel Width:	0.50
5.00	0.55
0.48	0.45
Transect 11	0.50
Substrate:	0.10
sand	0.15
Water Clarity:	0.20
clear	0.20
Channel Feature:	0.25
pool	0.30
Channel Width:	0.35
5.00	0.40
0.28	0.35
Site Median	Site Maximum
0.20	0.60

WBID# 1015



Site# 1 Photo ID# 32, Upstream



Site# 1 Photo ID# 31, Downstream



Site# 1 Photo ID# 34, Bridge



Site# 1 Photo ID# 35, Footpath / footprints

WBID# 1015



Site# 2 Photo ID# 36, Upstream



Site# 2 Photo ID# 37, Downstream



Site# 3 Photo ID# 38, Upstream



Site# 3 Photo ID# 39, Downstream